t(17;21)(q11.2;q22) as a sole aberration in acute myelomonocytic leukemia

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**Clinics**

**Age and sex**
87 years old male patient.

**Previous history**
No preleukemia, no previous malignancy, no inborn condition of note.

**Organomegaly**
No hepatomegaly, nosplenomegaly, no enlarged lymph nodes, no central nervous system involvement.

**Blood**

WBC: 30.6 X 10^9/l
HB: 99 g/dl
Platelets: 71 X 10^9/l
Blasts: 3%
Bone marrow: 28% (of blasts) (Hypercellular; 28% of blasts: 20% of monocytic lineage, dispoiesis in megakaryocytic lineage and diserithropoiesis).

**Karyotype**

Sample: Bone marrow
Culture time: 24h
Banding: GTG

Results
46,XY.t(17;21)(q11.2;q22)[19]/46,XY[1]

Other molecular cytogenetics technics
FISH: LSI RUNX1/RUNX1T1, LSI MLL (Abbott); WC 17, 21 (Kreatech)

Other molecular cytogenetics results
nuc ish(RUNX1T1x2,RUNX1x3)[130/200]; ish t(17;21)(WCP17+,WCP21+;WCP17+,WCP21+)

**Diagnosis**

Acute myelomonocytic leukemia

**Survival**

Date of diagnosis: 04-2011
Treatment: Symptomatic (antibiotics)
Complete remission: no
Treatment related death: no
Relapse: no
Status: Death
Last follow up: 04-2011
Survival: 1 month

**Cyto-Pathology**

**Classification**

**Cytology**
Acute myelomonocytic leukemia

**Immunophenotype**
CD4-/CD11c+/CD13+/CD14+/CD15+/CD33+/CD34+/CD45+/CD64+/CD65+/MPO

Rearranged Ig Tcr: -
Pathology: Not done
Electron microscopy: Not done

Other Molecular Studies

Technics: PCR
Results: FLT3-ITD - negative; NPM1 mutation - negative.
Figure 1. Partial Karyogram with a balanced translocation t(17;21)(q11.2;q22).

Figure 2. GTG banded metaphase chromosomes.
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Figure 3. FISH on previously GTG banded chromosomes (Fig. 2). WC 17 (aqua) and WC 21 (red) (Kreatech).

Figure 4. Metaphase FISH by LSI AML1(RUNX1)/ETO(RUNX1T1) DNA probe (Abbott) with split signal for RUNX1 (green). On GTG banded metaphase normal 21 with the strong RUNX1 signal and both derivatives with split RUNX1 signals are indicated.
We report the first case of t(17;21)(q11.2;q22) as the sole anomaly in AML. This rare recurrent abnormality has been linked to treatment related leukemia or MDS although it has been also found in de novo leukemia (Roulston et al., 1998; Nadal et al., 2008). Our patient had no previous history of cancer or preleukemia. Cytomorphology of bone marrow cells was, however consistent with dysplastic changes typical for s-AML. FISH analysis with probe specific for RUNX1 has been done in two previous cases with t(17;21)(q11.2;q22). While in one patient RUNX1 has been lost (Nadal et al., 2008) our result corresponds to the case of Roulston et al. (Roulston et al., 1998) where signals from RUNX1 were split by the translocation. Due to his age and poor physical condition our patient was not treated by intensive chemotherapy and he died within a month from diagnosis.

References


This article should be referenced as such: